

## CLAIMS

1           1.       (original) Circuitry comprising a filter having one or more filter sections, wherein:  
2           at least one of the one or more filter sections comprises a plurality of transconductor (gm) cells;  
3           and  
4           at least one of the gm cells can be configured to have substantially zero transconductance, such  
5           that the at least one filter section will oscillate.

1           2.       (original) The invention of claim 1, wherein the at least one filter section is adapted to  
2           oscillate at a cutoff frequency of the filter section.

1           3.       (original) The invention of claim 1, wherein the at least one filter section has an input  
2           node adapted to receive an input signal for the at least one filter section, an intermediate node, and an  
3           output node adapted to present an output signal for the at least one filter section and further comprises:  
4           a first gm cell connected between the input node and the intermediate node;  
5           a first capacitor connected between the intermediate node and a voltage reference;  
6           a second gm cell connected between the intermediate node and the output node;  
7           a second capacitor connected between the output node and the voltage reference;  
8           a third gm cell connected at both ends to the intermediate node; and  
9           a fourth gm cell connected between the output node and the intermediate node, wherein:  
10          the third gm cell comprises a set of switches that enable the third gm cell to be  
11          configured to have substantially zero transconductance, such that the at least one filter section will  
12          oscillate.

1           4.       (original) The invention of claim 3, wherein the voltage reference is ground.

1           5.       (original) The invention of claim 1, wherein:  
2           the at least one filter section is in a main signal path of the filter; and  
3           the at least one filter section is adapted to be configured to oscillate in order to tune the at least  
4           one filter section.

1           6.       (original) The invention of claim 5, wherein each filter section in the main signal path of  
2           the filter can be configured to oscillate in order to tune each filter section.

1           7.       (original) The invention of claim 1, wherein:  
2           the filter comprises a main signal path having one or more filter sections;  
3           the at least one filter section is not part of the main signal path;  
4           the at least one filter section is a replica of at least one filter section in the main signal path; and  
5           the at least one filter section is adapted to be configured to oscillate in order to tune the at least  
6           one filter section in the main signal path.

1           8.       (original) The invention of claim 1, wherein:  
2           the at least one filter section comprises tuning circuitry adapted to tune the at least one filter  
3           section; and  
4           the tuning circuitry is adapted to store tuning control information for the at least one filter section  
5           such that the at least one filter section can be tuned intermittently.

1           9.       (original) The invention of claim 8, wherein information ~~about~~ based on the tuning  
2           control information of the at least one filter section is used to tune one or more other filter sections in the  
3           filter.

1           10.     (original) The invention of claim 1, wherein the at least one filter section is adapted to  
2 oscillate without relying on phase-locked loop circuitry.

1           11.     (original) The invention of claim 1, wherein the one or more filter sections are  
2 biquadratic filter sections.

1           12.     (original) The invention of claim 1, wherein the one or more filter sections are  
2 connected to form a ladder structure.

1           13.     (original) A method for operating a filter having one or more filter sections, wherein:  
2 at least one of the one or more filter sections comprises a plurality of transconductor (gm) cells;  
3 the method comprising configuring at least one of the gm cells to have substantially zero  
4 transconductance, such that the at least one filter section will oscillate.

1           14.     (original) The invention of claim 13, wherein the at least one filter section oscillates at a  
2 cutoff frequency of the filter section.

1           15.     (original) The invention of claim 13, wherein:  
2 the at least one filter section has an input node that receives an input signal for the at least one  
3 filter section, an intermediate node, and an output node that presents an output signal for the at least one  
4 filter section;

5           the at least one filter section further comprises:  
6           a first gm cell connected between the input node and the intermediate node;  
7           a first capacitor connected between the intermediate node and a voltage reference;  
8           a second gm cell connected between the intermediate node and the output node;  
9           a second capacitor connected between the output node and the voltage reference;  
10          a third gm cell connected at both ends to the intermediate node; and  
11          a fourth gm cell connected between the output node and the intermediate node, wherein:  
12          the third gm cell comprises a set of switches that enable the third gm cell to be  
13 configured to have substantially zero transconductance, such that the at least one filter section will  
14 oscillate.

1           16.     (original) The invention of claim 13, wherein:  
2 the at least one filter section is in a main signal path of the filter; and  
3 the at least one filter section is configured to oscillate in order to tune the at least one filter  
4 section.

1           17.     (original) The invention of claim 13, wherein:  
2 the filter comprises a main signal path having one or more filter sections;  
3 the at least one filter section is not part of the main signal path;  
4 the at least one filter section is a replica of at least one filter section in the main signal path; and  
5 the at least one filter section is configured to oscillate in order to tune the at least one filter  
6 section in the main signal path.

1           18.     (original) The invention of claim 13, wherein:  
2 the at least one filter section comprises tuning circuitry that tunes the at least one filter section;  
3 and  
4 the tuning circuitry stores tuning control information for the at least one filter section such that  
5 the at least one filter section can be tuned intermittently.

1           19.     (original) The invention of claim 18, wherein information about the tuning of the at least  
2 one filter section is used to tune one or more other filter sections in the filter.

1           20.     (original) The invention of claim 13, wherein the at least one filter section oscillates  
2 without relying on phase-locked loop circuitry.